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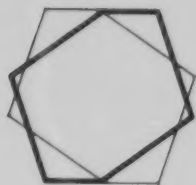
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ABSTRACT

Described is a model for inservice training of paraprofessionals working with the severely and profoundly mentally retarded. Reviewed are the following training phases: orientation, including a discussion of the program's overview and expectations; demonstration and modeling of activity training; monitoring the resident's progress; and prescriptive programming. Each phase is explained to be followed by a feedback meeting featuring problem solving and discussion. Other topics addressed in the manual are using reinforcement, selecting materials, and reviewing participants' performance. (CL)

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The Graduate School and University Center
of the City University of New York

Center for Advanced Study in Education, Teaching Resource Center
Graduate Center, 33 West 42 Street, New York, N.Y. 10036

PARAPROFESSIONAL TRAINING MANUAL

**An Inservice Approach for Training Staff Working
With the Severely-to-Profoundly Handicapped**

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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Director

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PARAPROFESSIONAL TRAINING MANUAL

The City University of New York/Teaching Resource Center
A Regional Resource Center for Handicapped Children

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OVERVIEW OF THE NEW YORK REGIONAL RESOURCE CENTER

TRAINING MODEL

The Teaching Resource Center of The City University of New York is one of the thirteen Regional Resource Centers (RRC #10) for the handicapped throughout the country, each center serving a state or multi-state region. The Centers are funded by the Bureau of Education for the Handicapped, U.S. Office of Education, Department of Health, Education and Welfare.

The mandate of the Teaching Resource Center which serves the New York state region, is to improve and enhance the educational experience of all handicapped children by providing their school administrators, teachers, parents and guardians with practical information and innovative programs and training aimed at fostering individual growth of the handicapped child. Such an endeavor is accomplished by working in a supportive capacity with the New York State Education Department Division for Handicapped Children and other state agencies responsible for the education and training of handicapped children.

In New York state, the education and training of the severely-to-profoundly mentally retarded is the responsibility of the New York State Department of Mental Hygiene, Bureau of Education. In an effort to serve this population in support of state efforts, the New York Regional Resource Center (RRC #10) has designed an in-service training program for therapy aides working with severely and profoundly mentally retarded residents. Training was conducted in a local unit of one of the twenty

one state developmental centers for the mentally retarded.

The program seeks to train therapy aides to conduct activities with residents while reinforcing and strengthening skill training from other programs. The training emphasis is to provide the therapy aides with skills to implement activities in sensory stimulation, motor development, and language development. In addition, the therapy aides acquire skill in using reinforcers appropriately and management techniques for working with a group of residents. Socialization and pre-self help skills are an integral part of the activities.

Suggestions for activities are encouraged and invited from speech therapists, psychologists, teachers, and recreation therapists in an effort to create a cohesive transition and support of skill training between program specialists and therapy aides. Recognizing the therapy aide as the individual who interacts with the resident most, transferring skills from specialists to the therapy aides is emphasized in the program. Such an exchange also increases staff morale and enthusiasm which hopefully will increase effectiveness in program implementation.

Training is in-service and conducted in three phases over a three month period. An orientation session to introduce the Teaching Resource Center staff and provide an overview of the training program is conducted prior to beginning the actual training sessions.

OUTLINE OF IN-SERVICE TRAINING MODEL

- I. ORIENTATION SESSION
 - A. Staff Introductions
 - B. Overview of Training Program
 - C. Goals and Expectations of Training Program
 - D. Trainee Self Evaluations
 - E. Scheduling
- II. PHASE I - ACTIVITY TRAINING
 - A. Activity Introductions
 - B. Demonstrations/Modeling
 - C. Discussion
- III. FEEDBACK MEETING
 - A. Problem Solving
 - B. Discussion
 - C. Recommendations
- IV. PHASE II - MONITORING THE RESIDENT'S PROGRESS
 - A. Activity Implementation
 - B. Progress Documentation/Graphing
 - C. Discussion
- V. FEEDBACK MEETING
- VI. PHASE III - PRESCRIPTIVE PROGRAMMING
 - A. Activity Evaluation
 - B. Needs Assessment
 - C. Development of Educational Program
 - D. Implementation of Educational Program
 - E. Discussion
- VII. FEEDBACK MEETING
- VIII. EVALUATION/PERFORMANCE REVIEW

Rationale:

Non-professional direct-care staff are one of the available resources for training severely and profoundly mentally retarded individuals which are only recently beginning to be tapped. Crosby (1976), in a recent article on program development for the institutionalized mentally retarded stated:

"Use of a transdisciplinary approach by 'mini-teams', frequently composed of a nurse, physical and/or occupational therapist, educator, and direct-care staff person, has, for example, enabled direct-care staff to conduct therapeutic activities along with training in self care skills and day to day care of severely and multiply handicapped residents" (Crosby, 1976, p.6)

At present, there is very little research on the training of direct-care staff members in order to enable them to function as important adjuncts to training programs for the severely mentally retarded. All of the existing studies have focused on the training of direct-care staff to become 'behavior modifiers'. This research has some applicability to the training of direct-care staff to implement activity programs, because teaching staff to become behavior modifiers involves not only teaching behavior modification as a technique, but also teaching specific content and skill areas in which the techniques can be employed.

Behavior modification programs employing direct-care staff as behavior modifiers of severely and profoundly retarded individuals have

resulted in significant increases in the desired behaviors in many skill areas; most noticeably in self help skills (Ross & Oliver, 1969; Benowitz, Sherry, & Davis, 1971; Groves & Carroccio, 1971; Christian, Molloman, & Lanier, 1973; and Parsonson, Baer & Baer, 1974) social skills (Wright Clayton, & Edgar, 1970; Bricker, Morgan & Grabowski, 1972; Baker & Ward, 1973; and Lutzker, 1974) and language skills (Guers, Rutterford, Smith, & Ensminger, 1970; Bricker, Morgan & Grabowski, 1972; Wheeler, 1973 Panyon & Patterson, 1974; and Parsonson, Baer & Baer, 1974).

Taking the area of language skills as an example, Guers, et al (1970) successfully trained two attendants to teach communications skills to small groups of severely retarded children. Higher functioning children were taught activities from the Peabody Language Development Kit, while lower functioning individuals participated in activities designed to encourage speech production, increase response length and develop greater auditory discrimination. Wheeler (1973) reported a study in which an attendant was successfully trained to teach verbal imitations to a profoundly retarded adolescent. Panyon & Patterson (1974) employed modeling training in order to teach attendants to instruct profoundly retarded children to respond appropriately to simple verbal commands.

Although the results of these studies are encouraging, there are some limitations which necessitate a considerable amount of future research. First, in general, the number of attendants trained in each of these studies has been small. Usually the staff of one ward is selected. Research is needed in the feasibility of attendant training on

a larger scale. Second, attendants have been trained to teach only a few very specific activities, and research is needed to determine the range and scope of activities which attendants will be able to successfully monitor. Finally, research is needed in order to determine the degree to which attendants can select appropriate activities for individual trainees, since previous research programs consisted primarily of carefully spelled out procedures which allowed for little choice, or decision making.

In conclusion, there is a small body of literature which suggests that nonprofessional direct-care staff can become an integral part of training programs for severely and profoundly retarded individuals. A considerable amount of research is necessary in order to determine the capabilities and limitations of this too often neglected resource.

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INCEPTION

While it is true that professionals in the field of special education and other concerned citizens all agree that we must recognize and address the legal and moral rights of our severely and profoundly mentally retarded populations to receive education and training appropriate to their developmental needs, it is also true that few, and in many situations, no additional financial or staffing provisions are being made available to implement these programs. Special education for the severely and profoundly mentally retarded is a very recent priority; hence, there is a real need for clinicians and educators with training and experience to work effectively with this population. As we look toward alternative methods of educating severely and profoundly mentally retarded youngsters, a logical point of entry is training the direct-care staff with whom the residents spend the majority of their time. Transferring skills from specialists to the therapy aides is an effective use of human power. These individuals can be a very valuable component of the service delivery system with regard to the provision of education and training to the severely and profoundly mentally retarded. Recognizing the limitations of in-house staff personnel at residential centers for the retarded, and given the magnitude of budget and staffing problems, the New York Regional Resource Center conducted a very modest demonstration program to point out the need for training and substantiate our model as a viable means of providing this training.

Prior to beginning training, baseline data was collected via video-

taping and observation utilizing a behavioral frequency measure. The frequency and type of interactions between residents and therapy aides were noted for two weeks. Conversations with the chief of service and other staff personnel revealed a general concern about the interpersonal interactions between residents and therapy aides and the large blocks of time that residents spent idle on their living units. The results of videotaping and observations substantiated the absence of activity on the living units and the absence of interactions with developmental value to the residents that would be instrumental in fostering independent functioning.

Setting:

The Center where training was conducted is a small residential facility for the mentally retarded. Although it is located in an urban area, it is isolated on a small island. The Center consisted of four living units with approximately 20 residents in each unit. Each unit has a large room that was designated as a dayroom. Residents spent the majority of their day in the dayroom in a stimulus deprived environment exhibiting stereotypical institutional behavior. Five therapy aides were assigned to each unit during the day shift, 7:35 a.m.- 4:05 p.m. However, most of the therapy aides time was spent in custodial duties. The residents ranged in age from 9 to 40 years. All the residents were severely-to-profoundly mentally retarded with secondary handicaps of deafness, blindness, physical impairment, emotional disturbance and speech and language impairment. The therapy aides were all under 35 years of age. Their educational backgrounds included some high school and high school graduates.

Orientation Session

Training is commensurate with an introductory orientation session where the therapy aides are given a detailed outline of the entire program. During the session, program goals are delineated and format, materials and attendance schedule are explained and discussed. The therapy aides vital role and importance to the program are stressed throughout the orientation session.

Responses from the therapy aides are encouraged and elicited concerning how they see the program benefitting the resident as well as themselves. The therapy aides are then given an opportunity to evaluate their present level of competency in the areas in which training will be concentrated.

PROGRAMS GOALS

To Motivate Therapy Aides to Interact With the Residents and Work Effectively in a Non-Custodial Manner.

To Teach Therapy Aides to Implement Activities With the Residents in 3-Major Skill Areas - - Sensory Stimulation, Motor Development, and Language Development.

To Teach Therapy Aides Management Techniques for Working With a Group of Residents.

To Teach Therapy Aides How to Use Reinforcers and What to Use as Reinforcers.

To Identify for Therapy Aides Appropriate Materials for Working With the Residents.

To Bridge the Gap Between Professional Staff and Unit Staff by Encouraging Interdisciplinary Involvement.

IN-SERVICE TRAINING EVALUATION FORM
(Pre-Training Evaluation)

Listed below are the major areas of concentration of the Teaching Resource Center training in methods and techniques for working effectively with the severely-to-profoundly retarded. Will you please assist us in our evaluation of the effectiveness of the training by indicating your own assessment as to your present level of competency in each area.

*Knowledge of specific activities to stimulate the five senses (hear, smell, taste, feel, sight) of the resident.
_____ unclear _____ familiar _____ understand _____ can demonstrate

*Knowledge of specific activities to improve the motor ability of the residents.
_____ unclear _____ familiar _____ understand _____ can demonstrate

12 *Knowledge of specific activities to stimulate and improve the language ability of the residents.
_____ unclear _____ familiar _____ understand _____ can demonstrate

*Knowledge of how and when to use reinforcers.
_____ unclear _____ familiar _____ understand _____ can demonstrate

*Knowledge of what to use as a reinforcer.
_____ unclear _____ familiar _____ understand _____ can demonstrate

*Knowledge of management techniques for working with a group of residents.
_____ unclear _____ familiar _____ understand _____ can demonstrate

*Knowledge of appropriate materials for working with residents.
_____ unclear _____ familiar _____ understand _____ can demonstrate

17 NAME: _____

DATE: _____ 13

TEACHING RESOURCE CENTER ACTIVITY TRAINING SCHEDULE - UNIT 852

MONDAY

10:00 - 10:30
10:30 - 11:00
11:00 - 11:30

Trainee 1
Trainee 2
Trainee 3

1:30 - 2:00
2:00 - 2:30
2:30 - 3:00

Trainee 1
Trainee 2
Trainee 3

TUESDAY

10:00 - 10:30
10:30 - 11:00
11:00 - 11:30

Trainee 2
Trainee 4
Trainee 1

1:30 - 2:00

Trainee 2

WEDNESDAY

10:00 - 10:30
10:30 - 11:00
11:00 - 11:30

Trainee 5
Trainee 4
Trainee 3

1:30 - 2:00
2:00 - 2:30
2:30 - 3:00

Trainee 5
Trainee 4
Trainee 5

THURSDAY

10:00 - 10:30
10:30 - 11:00
11:00 - 11:30

Trainee 3
Trainee 1
Trainee 5

1:30 - 2:00
2:00 - 2:30
2:30 - 3:00

Trainee 3
Trainee 1
Trainee 4

PHASE I

PHASE I

Direct 1 to 1 Training in Activity Implementation

In an effort to create an atmosphere of purposeful interaction between the therapy aides and residents, the thrust of Phase I of the training program is activity introduction. At each session two or three activities are introduced to the therapy aide working with a resident of his/her choosing. Activities are selected from a Basic Skills and Activities Compendium which has been developed by the Teaching Resource Center. The Compendium identifies activities in the areas of sensory stimulation, language and motor development. The Teaching Resource Center staff trainer introduces an activity to the therapy aide by explaining the goal of the activity and providing the therapy aide with a brief rationale for using a given activity. Every effort is made to relate the activity to a life skill thereby fostering independent functioning of the resident. Selecting and using reinforcers appropriately, management techniques, and the selection of appropriate materials are skills which are developed during Phase I of training. The training methodology being utilized is demonstration and modeling mediated by clear, concise verbal explanations regarding the objective and implementation of an activity.

Before each session, the therapy aide selects one to two residents with whom to work. Training sessions are thirty minutes. Scheduling is coordinated with the administration and posted on the unit.

Sample Session

Objective:

- (1) To introduce and demonstrate three activities that will develop or improve the resident's gross motor coordination
- (2) To afford the therapy aide an opportunity to model the activities following demonstration

Experiences and Activities:

- (1) Trainer should assemble materials needed.
- (2) Seat resident and trainer in a room or area where it is quiet and free from distractions.
- (3) Trainer should attempt to put the resident and the trainee at ease.
- (4) Referring to the activity card, explain the objective or goal of the activity to the trainee as simply as possible e.g. "This activity will improve the resident's gross motor coordination. For the purposes of this activity gross motor refers to the large movements of the arm and shoulder that would be needed to throw a ball or take off your coat."
- (5) Allow trainee to ask questions before proceeding.
- (6) When the trainer is comfortable that the goal is clear, demonstrate the implementation of the activity working with the resident, but verbally explaining each step to the trainee as you work.
- (7) The use of reinforcement and management techniques should be explained in detail.
- (8) Allow trainee to ask questions before proceeding.
- (9) When the trainee has observed several trials and all questions have been answered, allow the trainee to implement the same activity observed, working with the resident.
- (10) The trainer will supervise closely and assist when necessary gradually decreasing assistance as trainee's efficiency increases.

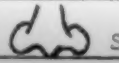
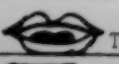
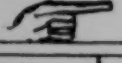
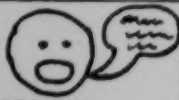
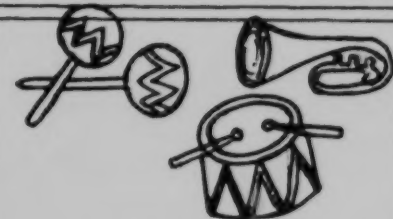
- (11) Stress the importance of social reinforcement (verbal praise) when the resident succeeds or makes a sincere attempt.
- (12) Edible and physical reinforcers should also be discussed and used as needed.
- (13) The trainer should discuss problems and progress with the trainee before terminating the session.

BASIC GUIDELINES

- Complete one activity before introducing a second activity to avoid confusing the trainee and/or the resident
- Do not introduce more than three activities per 30 minute training session
- Minimize the use of technical language
 - Give concrete examples when explaining specific terms as they relate to behavior modification, psychology, special education etc.
 - Stress the trainee's role as a therapist contributing to the physical and mental development of the resident thereby fostering independent functioning
 - Encourage the trainee to vary activities as indicated by the resident's response
 - Solicit information from the trainee about the resident to encourage prescriptive thinking
 - Allow the trainee to ask questions and freely discuss his training needs as he perceives them
 - At the end of each training week, the activities that have been introduced should be filed in a box on the unit for use by the trainees in the absence of a structured training session

MAJOR SKILL AREAS

SUGGESTED ACTIVITIES

SUGGESTED ACTIVITIES					
<u>SENSORY STIMULATION</u>	 SIGHT	Colors	 Shapes	Different Sizes	New Objects
	 HEARING	Records	Musical Instruments	Singing	Animal Sounds
	 SMELL	Perfume	Onions	 Flowers	Vinegar
	 TASTE	Potato Chips	 Lemons	Fruit 	Chocolate
	 TOUCH	Cotton	Sandpaper	Body lotion	Sand
<u>LANGUAGE</u>	 RECEPTIVE	Resident will respond to name when called	Resident will point to objects when asked	Resident will respond to commands or do what he is asked	
	 EXPRESSIVE	Talking or making sounds	Making gestures	Using sign language	
<u>MOTOR COORDINATION</u>	GROSS (Using Arms and Legs)	- Climbing stairs and ladders - Hopping - Throwing a ball	- Kicking a ball - Riding a bicycle - Jumping	- Running - Exercising - Walking	
	FINE (Using Fingers)	- Buttoning clothes - Zipping clothes - Tying shoes	- Picking up small objects - Removing the wrapper from candy and chewing gum	- Cutting with scissors - Drawing and Coloring - Twisting string, yarn.	
<u>GROUP</u>	SOCIALIZATION & WORKING TOGETHER AS A GROUP	 Singing	 Playing Musical Instruments	 Playing or Doing Activities Together	

PROTOTYPICAL ACTIVITIES

Taken from Basic Skills and Activities Compendium-Instructional Objectives and Matching Activities for Working With Severely and Profoundly Mentally Retarded Children. Teaching Resource Center/CUNY, 1977

SKILL CATEGORY: Sensory Stimulation

ACTIVITY: Visually tracking an object/or following an object with eyes

OBJECTIVE: To stimulate and improve the sense of sight
To improve attention

- PROCEDURE:
1. Hold a brightly colored object at eye level in front of the child.
 2. Say, (CHILD'S NAME), LOOK AT THE (NAME THE OBJECT).
 3. Move the object in various directions - up, down, to the right, to the left, around the room, etc.
 4. As the child follows the object with his/her eyes give verbal encouragement such as SEE THE (NAME OBJECT).
 5. If the child does not respond hold the brightly colored object close to his/her face at eye level or use a reinforcer such as food as the moving object.

MATERIALS: Any brightly colored object: ball, block, flashlight,
NEEDED food if necessary.

- EVALUATION:
1. Was the child able to follow the object with his/her eyes?
 2. How long did the activity hold the child's attention?
 3. Was it necessary to use food or other reinforcers as the moving object?

SKILL CATEGORY: Sensory Stimulation

ACTIVITY: Locating the direction of a sound

OBJECTIVE: To stimulate and improve auditory reception and localization

- PROCEDURE:
1. Blindfold the child.
 2. Walk behind the child and clap your hands. Say, WHERE AM I?
 3. If the child turns around to find you, say, VERY GOOD!
 4. If the child does not respond, try touching him on the back, and then clapping again.
 5. Repeat question.
 6. This activity can be varied using different sounds in different locations.

MATERIALS: Blindfold (scarf), any object that can make a sound:
NEEDED bells, wooden sticks, ball, blocks.

Suggestions for sounds: singing, stomping feet, snapping fingers.

- EVALUATION:
1. Did the child locate the direction of the sound immediately or after you touched him/her?
 2. How many sounds did the child locate?

SKILL CATEGORY: Sensory Stimulation

ACTIVITY: Touching a variety of objects

OBJECTIVE: To stimulate and increase tactile awareness and discrimination

- PROCEDURE:
1. Select several different types of objects and textures and have the child touch each one.
 2. Encourage the child to examine each object. Be sure to name the object and its distinctive property. Say, THIS IS A (NAME OBJECT). IT FEELS (NAME PROPERTY).
 3. Give assistance, if necessary, by placing the child's hands on the object and moving them lightly over the surface.

MATERIALS: Objects with distinctive tactile properties: For example:
NEEDED smooth - velvet, window; rough - sandpaper, gravel; soft - cotton, furry stuffed animal; hard - floor, table; hot/cold - water, ice cube (use toys, foam balls, familiar objects)

- EVALUATION:
1. Did the child enjoy touching the various surfaces?
 2. Did he/she seem to prefer one type of tactile stimulation to another?

SKILL CATEGORY: Motor

ACTIVITY: Pulling a sheet weighted with objects

OBJECTIVE: To improve gross motor skills
To develop muscle strength and coordination
To develop body awareness
To develop weight discrimination

- PROCEDURE:
1. Place sheet or large piece of material on the floor.
 2. Select small items of different weights, arranging them from heavy to light.
 3. Beginning with the heaviest item, place it on one end of the sheet and hand the diagonal end of the sheet to the child. Say, (CHILD'S NAME), PULL THE SHEET ACROSS THE FLOOR.
 4. If assistance is necessary, aid the child by pulling the sheet gently with the child.
 5. Once the child has completed this task continue to the next item.
 6. Repeat the activity throughout the day, varying the heaviness of the item.

MATERIALS: Large sheet or pice of material. Items of different weights: books, toys, trays, containers, cups, wrapped soap etc.

- EVALUATION:
1. How did the child react to the different weights?
 2. Did the child need assistance in pulling the weighted sheets?

SKILL CATEGORY: Motor

ACTIVITY: Picking up small objects with fingers

OBJECTIVE: To improve fine-motor skills
To improve eye-hand coordination

PROCEDURE:

1. Place small objects on a table or floor and instruct the child to pick them up. Demonstrate what you wish the child to do.
2. Begin with blocks, cubes, pegs and progress to playing cards, index cards, paper clips.
3. Give assistance by using hand over hand method, if necessary.

MATERIALS: Small objects: blocks, cubes, pegs, playing cards, paper clips.
NEEDED

EVALUATION

1. Did the child have difficulty picking up any of the objects? If so, identify.
2. Was it necessary to give assistance?
3. How long did the activity hold the child's attention?

SKILL CATEGORY: Motor

ACTIVITY: Passing a bean bag from person to person

OBJECTIVE: To develop gross motor skills
To develop social skills

- PROCEDURE:
1. Have three or more children sit on the floor in a circle.
 2. While singing a short jingle, have the children pass the bean bag from one child to another. When the song ends, the child holding the bean bag must perform a task with the bean bag such as tossing and catching the bag, throwing the bag into a container etc.
 3. If the child needs assistance in passing the bean bag, use the hand over hand method, passing the bag to the next person.
 4. Remember to praise enthusiastically when a child completes the task.

MATERIALS: Several bean bags. Short jingles to sing Example: Row
NEEDED your Boat, Wheels on the Bus, One potato - two potato

- EVALUATION:
1. Did the child enjoy participating in an activity with other children?
 2. Was he/she able to pass the bean bag?
 3. How long did the activity last?

SKILL CATEGORY: Language

ACTIVITY: Blowing bubbles

OBJECTIVE: To develop skill in breath control
To develop skills necessary for speech

- PROCEDURE:
1. Sit close to the child and hold the bottle of bubbles in your hand.
 2. Say to the child, LOOK (CHILD'S NAME). Dip the wand into the bottle of bubbles, remove it and blow the bubbles toward the child.
 3. Point to the bubbles, and say, SEE THE BUBBLES, CAN YOU TOUCH THEM?
 4. Dip the wand into the bubbles again and place it in front of the child's mouth. Say BLOW!
 5. If the child does not respond, try blowing on the child's cheek or hand so that he can feel your breath. Repeat steps 1-5.
 6. If the child does respond by blowing bubbles, be sure to praise him and draw his attention to the bubbles he has just blown.

MATERIALS: A bottle of bubbles with a wand
NEEDED

- EVALUATION:
1. Was the child able to blow bubbles?
 2. Was his breath forceful enough to blow bubbles? Too forceful? Not forceful enough?
 3. Did he enjoy the activity?

SKILL CATEGORY: Language

ACTIVITY: Playing with sock puppets

OBJECTIVE: To stimulate language through play with a sock puppet

PROCEDURE:

1. Put a sock puppet on your hand.
2. Show the child how hand movement can make the puppet talk.
3. Have the puppet talk to the child and ask him questions.
4. Place a puppet on the child's hand. Have your puppet talk to the puppet on the child's hand. If the child makes any attempt to have his puppet interact, praise him enthusiastically. Encourage any interaction.

MATERIALS: Two puppets
NEEDED

EVALUATION:

1. Did the child attempt to interact with the puppets?
2. What were his reactions to the puppets?

SKILL CATEGORY: Language

ACTIVITY: Recognizing own name

OBJECTIVE: To develop self concept
To develop receptive language

- PROCEDURE:
1. Cover the child's eyes with your hands.
 2. Say WHERE'S (CHILD'S NAME)? Repeat question several times as if you can't find the child.
 3. Then remove your hand so that the child can see you. Look surprised and say THERE'S (CHILD'S NAME)!
 4. Hug and praise the child. This game is fun to do several times.
 5. Variation: The trainer should cover his eyes and repeat steps 2, 3, and 4.

MATERIALS: None
NEEDED

- EVALUATION:
1. Did the child enjoy the game?
 2. Did he realize that you were looking for him?
 3. Did the child indicate surprise when his or her eyes were uncovered?

FEEDBACK MEETING

A feedback meeting is held at the end of each phase before beginning the next phase of training. The feedback meeting afford the therapy aides an opportunity to discuss any problems, concerns, or reactions they might be having regarding the training program. Therapy aides are also encouraged to make suggestions for improving the training model. As therapy aides become more comfortable with their ability to make judgments regarding the needs of individual residents, the feedback meetings become a vehicle for evaluating observed and documented behaviors and sharing ideas for prescriptive educational intervention. Staff clinicians of the residential facility assist therapy aides with intervention activities and strategies.

In addition to the benefits to the trainees, the feedback meetings provide a logical and neutral environment for meaningful exchange between professional and paraprofessional staff. Involving as many members of the Center's staff from as many disciplines as possible and appropriate is considered vital to the success of such a model. Sustained changes in attitudes and behavior will bear a direct correlation to the quality of communication between and among staff and the supervision and monitoring of program activities.

PHASE II

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PHASE II

INDEPENDENT IMPLEMENTATION OF ACTIVITIES BY THERAPY AIDE

WITH CONTINUED SUPERVISION AND TRAINING

In Phase II of the training process, the therapy aide begins to evaluate and monitor the residents ability to handle specific activities. The therapy aide has assumed responsibility for working with and keeping data on from two to four residents on a daily basis. The Teaching Resource Center staff trainer continues to review and monitor the therapy aide's implementation of activities introduced in the previous month while introducing new activities. The use of reinforcement and management techniques such as soliciting eye contact and recognizing the resident's frustration level continue to be stressed. Questions asked following an activity session include: Did the resident start and complete the activity without assistance? Did he/she perform the activity when given a verbal prompt? Was it necessary to use gestures to solicit the appropriate response? Was it necessary to physically guide the resident through the activity? Did the resident fail to respond to the activity? The response to these questions are discussed by the trainer and the therapy aide. Often other questions are raised during the discussion. At the end of the session, the therapy aide records the most help needed by the resident during the activity by shading in that point on the resident's progress sheet that corresponds with the questions discussed denoting the resident's level of functioning with this activity. The activity is repeated daily and the recording process continues. By connecting the points, a graph of the resident's performance is formed and the therapy aide is better able to monitor the progress of the resident.

Sample Session

Objectives:

- (1) To introduce the concept of monitoring a resident's progress.
- (2) To introduce and demonstrate the use of the "Resident Progress" form

Experiences and Activities:

- (1) Explain to the trainee that Phase II involves selecting specific activities from the Compendium designed to develop or improve particular skills.
- (2) Stress the importance of working with the resident daily in order to monitor his progress or lack of progress.
- (3) Explain the scale for evaluating the resident's performance.
 - 5 starts and completes activity without assistance
 - 4 performs activity when given a verbal prompt
 - 3 performs activity when prompted using gestures
 - 2 performs activity if physically guided
 - 1 does not respond to activity
- (4) Explain and discuss the directions as outlines on the "Resident Progress" form.
- (5) Allow trainee to select two to four residents for whom he/she will be responsible for working with and monitoring progress of on a daily basis.
- (6) Encourage the trainee to suggest activities for the residents he has chosen.
- (7) Select three or four activities for each resident chosen.
- (8) Write the name of the activity and the corresponding activity card number on the "Resident Progress" form.
- (9) Demonstrate the use of the graph using a hypothetical situation - shade in and connect the points forming a graph of the resident's progress.
- (10) Allow the trainee to ask questions regarding the use of the progress form.

- (11) The first 10-15 minutes of each succeeding session during Phase II should be devoted to discussing recorded information by the trainee, in the absence of a structured training session, on the residents for whom he/she is responsible.
- (12) During the remaining time, new activities are introduced following the procedure outlines in Phase I.

RESIDENT PROGRESS

OBJECTIVE: To stimulate visual and tactual senses

DIRECTIONS:

1. demonstrate activity
2. practice trial - give same amount of prompting as last session (if no response, give physical guidance)
3. trials - slowly lessen amount of help given
4. end of session - record the most help needed during trials

- 5 0 starts and completes activity by himself
- 4 0 performs activity when given verbal prompt
- 3 0 performs activity when prompted using gestures
- 2 0 performs activity if physically guided
- 1 0 does not respond to activity

SCALE:

ACTIVITY LEADER: Carter

RESIDENT: T. Smith

UNIT: 852

Activity	Date	4/1	4/2	4/3	4/4	4/5	4/6	4/7	4/8	4/9	4/10
Experiencing water play (S-17)	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1
Exploring reflection in the mirror (S-1)	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1
Exploring playdough (S-24)	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1
Exploring sand (S-18)	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1
	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1
	5 - 0	0	0	0	0	0	0	0	0	0	0 - 5
	4 - 0	0	0	0	0	0	0	0	0	0	0 - 4
	3 - 0	0	0	0	0	0	0	0	0	0	0 - 3
	2 - 0	0	0	0	0	0	0	0	0	0	0 - 2
	1 - 0	0	0	0	0	0	0	0	0	0	0 - 1

PHASE III

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PHASE III

Prescriptive Programming

In Phase III of the training, the Teaching Resource Center staff trainer and the trainee devise a thirty (30) minute educational program for each resident who has participated in the training program. Educational programs include activities introduced during the training sessions and therapy aides have input in the selection of these activities. Each educational program is specific to a given resident and delineates for the therapy aide 30 minutes of recommended activities noting the name of the activity and its corresponding number that has been coded to the Basic Skills and Activities Compendium, the objective of the activity, and the length of time that the therapy aide should engage the residents in a given activity. Therapy aides are encouraged to add or delete activities as the resident's performance indicates a need for changes in his/her program. The Teaching Resource Center staff trainer continues to monitor the therapy aides' interaction with the residents while functioning in a consultative capacity for the remaining training sessions. At the conclusion of the training program, supervision for program implementation is assumed by designated personnel of the residential center who have participated in the entire training program.

Sample Session

Objectives:

- (1) To develop a 30 minute educational program for each resident who has participated in the training program.
- (2) To provide the trainees with an educational program, for daily use in the absence of a structured training program, that is specific to an individual resident's developmental needs.

Experiences and Activities:

- (1) Having assumed responsibility for working with and keeping data on two-four residents during Phase II, the trainees are familiar with the developmental needs of specific residents.
- (2) Encourage the trainee to identify developmental needs of specific residents and to suggest activities to develop or improve upon needs skills.
- (3) The Basic Skills and Activities Compendium is the primary source of such activities, however activities not included in the Compendium may be decided upon by the trainer and trainee.
- (4) Such activities would then be written, coded, and added to the Compendium.
- (5) Following discussions with the trainee, the trainer develops a 30 minute individual educational program for each resident.
- (6) Educational programs should be complete by the end of the second week of Phase III.
- (7) Trainees should continue working with the keeping data on Phase II residents.
- (8) Upon completion of an educational program, the trainer and trainee shall discuss the activities selected, objectives to be met, materials needed, and the recommended length of time to be spent on a given activity.

- (9) Allow the trainee to ask questions regarding the educational program.
- (10) Instruct the trainee to implement the program as written.
- (11) The trainer shall supervise giving minimal assistance as needed.
- (12) Encourage trainees to delete, substitute, or modify programs as resident's progress or lack of progress seem to warrant such changes.
- (13) Educational programs are filed on the unit along with Compendium activities for use by trainees in the absence of a structured training program.

PROTOTYPICAL PRESCRIPTIVE PROGRAMS

EDUCATIONAL PROGRAM

RESIDENT'S NAME:

UNIT:

CENTER:

DATE:

<u>TIME</u>	<u>ACTIVITY</u>	<u>OBJECTIVE</u>
5 minutes	Playing with sock puppets (I-2)	To stimulate expressive language To improve fine-motor coordination
10 minutes	Matching colored cubes (L-12)	To improve receptive language To improve visual discrimination To improve eye-hand coordination
5 minutes	Matching identical shapes (L-14)	To improve receptive language To improve visual discrimination
10 minutes	Identification of objects and their use (L-15) (L-22)	To develop receptive language To improve eye-hand coordination To improve gross motor skills

EDUCATIONAL PROGRAM

RESIDENT'S NAME:

UNIT:

CENTER:

DATE:

<u>TIME</u>		
5 minutes	Exploring playdough (S-24)	To stimulate tactile awareness To stimulate gross and fine- motor skills
5 minutes	Playing with sock puppets (L-21)	To stimulate expressive language To improve fine-motor coordination
5 minutes	Exploring sand (S-18)	To stimulate tactile awareness
5 minutes	Removing pegs from a pegboard (M-21)	To improve fine-motor skills
10 minutes	Picking up small objects with fingers (M-7)	To improve fine-motor skills To improve eye-hand coordination

PROTOTYPICAL PRESCRIPTIVE PROGRAMS

EDUCATIONAL PROGRAM

RESIDENT'S NAME:

UNIT:

CENTER:

DATE:

<u>TIME</u>	<u>ACTIVITY</u>	<u>OBJECTIVE</u>
3 minutes	Attention (L-23)	To develop eye contact To increase attention span To increase receptive language
10 minutes	Identification of objects and their use (L-15) (L-22)	To develop receptive language To improve eye-hand coordination To improve gross motor skills
10 minutes	Sensory Stimulation: Tactile (S-20) (S-21) (S-22) (S-23) (S-24)	To improve tactile awareness To improve tactile discrimination
7 minutes	Experiencing waterplay (S-17)	To increase tactile awareness To increase awareness of wet and dry

EDUCATIONAL PROGRAM

RESIDENT'S NAME:

UNIT:

CENTER:

DATE:

<u>TIME</u>	<u>ACTIVITY</u>	<u>OBJECTIVE</u>
5 minutes	Experiencing waterplay (S-17)	To increase tactile awareness To increase awareness of wet and dry
2 minutes	Attention (L-23)	To develop eye contact To increase attention span To increase receptive language
5 minutes	Exploring reflection in the mirror (S-1)	To stimulate sense of sight To develop body awareness
10 minutes	Working a puzzle (M-27)	To improve gross motor skills To improve figure-ground discrimination To improve visual discrimination
8 minutes	Picking up small objects with fingers (M-7)	To improve fine-motor skills To improve eye-hand coordination

Criteria for Phase Movement:

The training model as outlined, has been divided into three phases each lasting one month. The one month constraint is an arbitrary decision for demonstration purpose. Movement from Phase I to Phase II should occur when the trainee has acquired skill in the implementation of activities to enable him/her to make judgements regarding the child's performance. The number of activities needed for movement is determined by the trainer. Movement from Phase II to Phase III should occur when the trainee is familiar enough with the residents to make recommendations regarding their educational needs for prescriptive programming. A good understanding of the use of reinforcement and the selection of appropriate materials is also desirable. This information should be taught during Phases I and II in meaningful working sessions. The training model as described outlines a process with some content recommendations. Timelines and specific content is determined by the trainer based on the training needs of staff and child population.

Reinforcement Therapy for Severely and Profoundly
Retarded Persons: A Guide for Training Paraprofessionals

Recent advances in psychological research and application have led many observers to conclude that the education of the severely and profoundly retarded is not as hopeless as it was once presumed. We have begun to suspect that the helpless and seemingly bizarre behaviors once associated with severe mental retardation are not completely due to biological abnormalities, but rather to a combination of the special needs of severely retarded children and the nature of the environments which they encounter.

The typical course of development of a severely retarded child is as follows: Sometime in early infancy severe mental retardation is diagnosed. The parents may or may not keep the infant at home as long as they can. Whether or not the infant remains at home, it is usually assumed that learning will not occur. Every need of the infant is anticipated, whether it concerns food or social interaction. In the case of custodial care, sensory stimulation is usually at a minimum. In other words, the severely retarded infant is hardly ever accorded the same type of environment as the normal infant. In fact, the environment is as a rule less stimulating and demanding. Specialized behaviors then develop. For example, it has been suggested that rocking behavior may be a form of self-stimulation due to solitary confinement, whereas headbanging behavior may be a form of eliciting attention in a non-confining situation.

The task, then, of the reinforcement therapist, is to analyze the function of specific inappropriate behaviors, and then to establish more appropriate behaviors in their place. For example, if headbanging is a call for attention, we would seek to both eliminate the inappropriate (and often self-destructive) behavior and then perhaps train the resident to use electronic signaling devices to call for help. Similarly, environmental modification, introducing stimulating and functional activities, may be the optimum method of alleviating bizarre and non-functional self-stimulatory behaviors.

Through the use of reinforcement therapy, or behavior modification, workers in the field of severe mental retardation have found out that many once "untrainable" residents can be taught to dress themselves, feed themselves, gain sphincter control, have some sort of social interaction, communicate using speech, and even work productively on assembly lines. This approach works because it views mental deficiency as being partly generated by adverse environmental learning conditions rather than by biological limitations alone. Behavior therapists do not diagnose or label. Rather, they look at antecedents and consequences, and manipulate the environment in such a way as to cause learning.

A further advantage of reinforcement therapy is that it can be used effectively by paraprofessionals. A few research studies have demonstrated that attendants can be taught to use reinforcement techniques through a combination of instruction and modeling (Panyan & Patterson, 1974). The following section will serve as an instructional

guide in reinforcement therapy for paraprofessionals. It should be supplemented, whenever possible, by actual in situ demonstrations, films, and/or videotapes.

Using Reinforcement

What is Reinforcement?

Reinforcement is a procedure through which behaviors are taught, maintained or increased. Positive reinforcement occurs through the presentation of a stimulus that maintains or increases behavior. A primary positive reinforcer such as food or water maintains or perpetuates life. A conditioned reinforcer, such as praise, is developed by pairing praise with the primary reinforcer. For example, if we want to teach a child to put pegs in a pegboard, we might at first reinforce the appropriate response with both food and praise. After repeated pairings, praise alone will have a reinforcing effect. Other examples of conditioned reinforcers are hugs, pats, and tokens which can later be exchanged for primary reinforcers.

Negative reinforcement entails the removal of a stimulus that under ordinary conditions maintains or increases behavior. For example, if a child is constantly scolded while in school, his absence from school will be reinforcing to him. Punishment procedures are often confused with negative reinforcement. Punishment involves the presentation of an aversive stimulus. Punishment includes scolding, response cost, and timeout procedures, which will be described in a later section.

Negative reinforcement and punishment, in comparison with positive reinforcement, are less desirable means of changing behaviors. They may seem to work as well at first, and perhaps even more quickly, but they have many undesirable side effects. For instance, feelings of anger and hostility may be engendered, which might result in aggression toward caretakers, peers, and even self. Furthermore, the resident might become frightened of the learning situation, thereby inhibiting and learning. Thus, we see that negative reinforcement and punishment can not only undermine our teaching efforts, but may also teach and elicit other inappropriate behaviors. Punishment may be useful in situations where everything else has failed, and only if the behaviors in question are life-endangering to self or others. In these special cases, the reinforcement program should be developed and carried out only under the supervision of a qualified psychologist, under extremely well controlled conditions.

How to use reinforcement to change behaviors:

Attitudinal and ethical issues. There has been some disagreement as to the use of behavior modification programs. Some critics assert that the modification of behavior by environmental manipulation is an impingement upon the rights and freedoms of those concerned, especially in the case of those institutionalized persons who cannot speak for themselves. In the case of normal functioning, non-institutionalized clients, there is a degree of freedom of choice. The cognizant individual usually has the privilege of accepting or rejecting the environmental contingencies as well as the goals, and, in fact, sharing in the development

of the entire program. This is usually accomplished through the use of behavioral contracts. The institutionalized severely retarded person, rather than experiencing more restrictions, will in fact have more freedoms, as a result of enhanced functioning and self-help skills.

What does the proper attitude entail? First, those involved must be open-minded and receptive to the success of behavioral techniques, especially toward the concept of the contribution of positive reinforcement to learning. The attitudes toward the severely retarded person should be of patience and encouragement. Any punishment, such as scolding, timeout, or response cost should be carried out only under the direction of the supervising psychologist, and without hostility or anger. The behavior therapist must be consistent and at all times in control of his or her emotions. Any other approach would result in failure of the program, and, in the long run, would make life more difficult for both the resident and his caretakers.

How to select reinforcers. Selecting reinforcers entails a great deal of resourcefulness. What is reinforcing for one person is not necessarily reinforcing for another. For instance, you might work for self-fulfillment, while another might do the same work for the salary. All of us work for some type of reinforcement therapy with severely and profoundly retarded persons is finding the stimulus that will act as a reinforcer for each individual resident. This section will explore and present techniques which have been found successful in research with the severely and profoundly retarded.

Edibles. It has been found that, for the severely retarded, edible reinforcers have a better effect than social reinforcers. Edible reinforcers for this population might include: squirts of beverage from a bottle, spoonfuls of ice cream, M & M's, or the regular meal itself. Reinforcers should be easily and quickly consumable so that the time is spent on teaching, rather than on eating.

Examples:

Edible reinforcers may be used to decrease undesirable behaviors, such as thumbsucking, handbiting, hair twirling, etc., by presenting the resident with an M & M for each one minute interval in which the target behavior does not occur.

Social reinforcers. Sometimes it is necessary to present edible reinforcers in an unusual way. For example, if the child recoils from physical contact, he might not take the food from the teacher's hand. It would then be necessary to give him squirts of beverages from a bottle, or to place the M & M, for example on a table, so that the child would not have to have contact with the adult in order to obtain the reinforcer. One such child was taught to play with a toy by the placing of edible reinforcers on the toy. As soon as he made contact with the candy and the toy, he was given another candy (Redd, 1969).

Secondary reinforcement, such as praise or hugs, may not be as effective as with the normal population. It may be necessary to condition the social reinforcer by pairing it with an edible reinforcer.

After a period of time, for example, five weeks, the social reinforcer alone may be strong enough to maintain or increase appropriate behaviors.

It has been found that there are other stimuli which have reinforcing value for the severely and profoundly retarded. For example, stimulation often proves as reinforcing if not more reinforcing for certain members of the population. (You will remember that many residents experience a lack of stimulation, and therefore engage in self-stimulatory behaviors). It has been found that by using a Kodak Projector with continuously presented colored slides (5 second duration), stereotyped rocking behavior decreases (Forehand et al, 1970). Severely retarded children have been taught to use Friedlander's PLAYTEST system, which produces a wide array of visual and auditory stimuli. This technique may have potential value in (1) eliciting attending behavior, (2) as reinforcement, and (3) as a form of stimulation, thus decreasing the need for self-stimulatory behaviors (Rynders & Friedlander 1972). A vibrator, (e.g. an electric toothbrush) was found to be an effective reinforcer with a deaf and blind severely retarded child.

There are potentially many more social and edible reinforcers which can be used with severely and profoundly retarded persons. They are up to the individual practitioner to discover.

Token economy. Token reinforcement is a different type of conditioned reinforcement. A token is any object that can be saved up and exchanged for another reinforcing item or activity at a later time.

Tokens are essentially a money-exchange system. They have been used successfully with those severely and profoundly retarded persons who are well advanced in training or no longer attending classes.

One such project was carried out with moderate and severely retarded adults. Good behaviors defined as participation in groups, chores and proper grooming skills, were rewarded with social and recreational privileges. Tokens, which were small metal washers, could be accumulated and spent on privileges such as food, dances, clothing, jewelry, etc. To initiate the program, tokens were initially paired with primary reinforcers (Musick & Luckey, 1970).

Premack principle. The Premack principle has been used by parents and teachers long before the advent of behavior modification. Access to a high frequency behavior is made contingent on performance of a low frequency behavior. Everyday examples include: "You must finish your math before you go out to recess," or "You must eat your vegetables or else you can't have dessert."

The Premack principle can be applied to the severely and profoundly mentally retarded person by first observing what the person's preferred activities are. The person is then required to perform a less preferred activity before he is allowed to engage in his preferred activity. For example, a child may be allowed to play with desirable objects only when seated, or, if speech is possible, after he has asked for it.

The Premack principle was recently used to modify the occupational

behavior of a thirty-five year old severely retarded female and a twenty-eight year old severely retarded male. For the female, the less preferred activity, which was the behavior to be increased, was winding strands of wool into balls according to their different colors. Tokens were used with the female. The tokens were round cardboard discs with pictures representing the two activities. The subject was required to spend from twenty to forty minutes on the less preferred activity. She was made familiar with the system by being asked intermittently how many more tokens she needed to change over to the other activity. It was found that the Premake principle was a viable technique to use in enhancing the occupational behavior of both severely retarded adults. Token economy, furthermore, is the easiest reinforcer to handle in the workshop (Bateman et al, 1975).

Extinction. Extinction is a technique by which we no longer reinforce behavior that was once reinforced. For example, if a child engages in thumbsucking, we ignore that behavior. We reinforce with edibles and/or praise only non-thumbsucking behavior. With the severely retarded, it may be necessary to have one person refrain the child's hand so that thumbsucking does not occur, while another person dispenses reinforcement. Extinction is not as effective a technique with the severely retarded as time-out procedures, but extinction of inappropriate behavior combined with positive reinforcement can be sufficient in many cases. Moreover, the concept of extinction is useful to all reinforcement therapists, because it forces us to pay attention to the social environment of each person. We

very often find that social attention is given to certain undesirable behaviors which then reinforces those behaviors.

Tantrums, for example, may be one way of gaining attention. It is more beneficial in the long run to pay attention to a person when he is engaging in appropriate rather than inappropriate behaviors, for example, when he is being quiet rather than disruptive.

Extinction was used together with social reinforcement with a severely retarded middle-aged man who constantly exposed himself. It was found that well meaning attendants would hug him and pay attention to him while he was exposed. A program was implemented whereby attendants were instructed to ignore him while exposed, and to hug him and pay attention to him at 10 minute intervals whenever he was not exposed. The inappropriate behavior was then completely eliminated (Lutzker, 1974).

Timeout. Timeout is a procedure whereby contingent upon an omission of an inappropriate response, access to reinforcement is removed for a specified period of time. It is important that the timeout period be of short duration, especially with the severely retarded. If a timeout period is too long, then no connection will be made or maintained between this form of punishment and the inappropriate response. It is therefore necessary to use timeout procedure only under the direction of a qualified psychologist. Timeout used in conjunction with extinction is a powerful technique.

Timeout can be used to eliminate undesirable mealtime behaviors. Undesirable mealtime behaviors were defined in one study as slopping food, eating with hands, yelling and playing with utensils. Reinforcement consisted of social approval. The attendant would say "good girl," and pat the child on the head or shoulder at regular intervals when her feeding behaviors were appropriate. After several sessions, little decrease in slopping had occurred. Therefore, a timeout of 15 seconds duration was instituted after each instance of slopping. Timeout consisted of the subject being pulled back from the table while sitting on the chair. Timeout was found to be more effective than social praise (Martin et al., 1971). An equally effective timeout procedure would be to remove the subject's tray for about one minute or until the child is properly seated for eating.

Response Cost. Response cost entails the withdrawal of certain amounts of reinforcers contingent upon inappropriate behaviors. An everyday example would be the removal of a child's dessert if he did not eat his vegetables. In a token reinforcement system, response cost would entail the removal of tokens immediately following inappropriate behavior. This technique has not been tested with the severely and profoundly retarded, and is therefore not recommended at this time.

Other punishing reinforcers. It may at times be necessary to decrease or eliminate undesirable behaviors by the use of other punishing reinforcers. The most frequently used is a clearly shouted

"No!," followed or accompanied by activities which would interfere with the inappropriate behavior. Punishment, to repeat, must always be used under the supervision of a qualified psychologist who is able to assess the effects of the procedure selected.

Using Reinforcement Effectively

Setting behavioral goals. The first and most important step in changing behavior is to pinpoint the behaviors that need to be developed, increased, eliminated, or decreased. This is done by defining exactly what the behaviors are so that they can be broken up into steps, taught, and identified once they are learned. For example, we might want to teach a resident to have better table manners. This would involve eating with a spoon, not yelling and sitting in one's chair. Eating with a spoon could be broken down into several steps. All of the behaviors are observable and we would be able to keep a record of them.

Providing a favorable environment. It is advantageous to emphasize a "total milieu" use of reinforcement techniques, which can be provided by regular attendants trained as therapists. The regular living environment should at all times be consistent with what is learned in the classroom. Immediate rewards must be given in a consistent manner, and only when contingent upon the child's performing the behavior in question (Baker & Ward, 1971). There should always be an absolute minimum of distractors since the retarded learner's performance is more apt to be affected by distraction than that of a normal learner.

When to use reinforcement. Reinforcers should be introduced only when a learner is motivated to accept them. For example, edibles will probably be least motivating upon completion of a meal, most

motivating one half hour before meal time. If a resident is on a program which makes use of edible reinforcers, then it is necessary to make sure that there are only three meals a day, with no between meal snacks. Meals are readily accessible reinforcers. They can be delayed to make sure that the learner is really hungry for edibles, or they can serve as reinforcers in the regular meal program, with the attendant staff serving as therapists. Of course, when the learner is no longer hungry, or satisfied, the reinforcer then loses its effect. Care must be taken, then, to limit the use of the reinforcer so that it maintains its effect for the duration of the learning session.

Reinforcement should always be contingent upon a response. If reinforcement is not immediate then no connection will be made between the response and the reinforcer and hence, desired behaviors will not be learned.

Reinforcer sampling. It is sometimes useful to allow sampling of the reinforcer before using it in the learning situation. This can act as a motivating device. The learner now knows that there is a "reward." If he wants more, he will have to work for it.

Fixed-ratio scheduling. A fixed-ratio schedule of reinforcement is when reinforcement is made contingent upon a specific number of appropriate responses. This can lead to faster rates of responding than when reinforcement occurs after every response. It also allows for an increase of the number of responses required for reinforcement,

thus simplifying the learning or working process. A ball rolling and block passing task was taught to severely retarded children, who were eventually put on a fixed ratio of reinforcement. The number of responses required for a reinforcement increased over the course of training. The investigators found generalization to interaction with other children, in addition to the successful acquisition of the task (Whitman, 1971).

Fixed-interval scheduling. A fixed-interval schedule of reinforcement is when reinforcement is made contingent upon appropriate behavior during a specified time period. This type of schedule can enable the therapist to increase intervals at a steady pace until the behavior in question is under control. To eliminate headbanging behavior, one can give reinforcement only following periods during which the behavior did not occur. In one study, a timer was used. If the self-injurious behavior occurred during the intervals then the timer was reset and no reinforcement was given for that interval. Eventually the child was able to be without restraints for periods in which no headbanging behavior occurred (Weiner, 1975).

Maintaining transferring and generalizing behaviors. Teaching a task is only the first step. We are also concerned with maintaining, transferring, and generalizing to other situations. The most important part of maintaining behaviors is to make sure that the ward or the home environment supports what is done in the learning situation. Attendants and paraprofessionals must be trained in the techniques

used. In one program, the technique used to maintain self feeding behavior was demonstrated to parents, who were encouraged to practice at the clinic, under supervision. Not only were behaviors maintained, but positive side effects, such as greater responsiveness to the environment and an increase in other kinds of independence, were noted in the children (Miller et al., 1971). Other workers in the area have also stressed the need for extra attention after treatment.

In order for transfer to other situations to occur, it is helpful to do two things. First, one can gradually change the environment in which the conditioning was carried out. Second, teacher replacement should be built into the program. In other words, the learner should work with more than one teacher or attendant, in order to learn that the same behavior is expected by everyone on the ward, or at home (Hogg & Maier, 1974).

How to Increase Desirable Behaviors: Examples:

Increasing Visual Fixation (attention)

When increasing attention, one should chose objects of known preference to the learner. The room should be free of all distraction. Whenever the learner fixates on the object, reinforce with edibles, headstroking, and/or verbal praise. (Maier & Hogg, 1974)

Using Appropriate Vocabulary

When the learner has a working vocabulary which is inappropriate and irrelevant:

Materials: Room should be free from all distractions, just table and 2 chairs. Magazines, or a scrapbook comprised of pictures from magazines, should be placed on a stool next to the teacher.

Procedure: Teacher points to a picture, asks: "who (what, where) is (does, etc.). One question is asked for each picture. Three classes of responses include appropriate, inappropriate and negative (either "no," or "I don't know").

An inappropriate response is immediately followed by timeout from reinforcement. (teacher closes magazine, looks away for ten seconds). Teacher goes on to next picture.

A negative response is ignored. Teacher goes on to next picture (Barton, 1970).

Establishing Social Interaction

A "backscratch" reinforcement procedure may be used with any teaching program to establish basic forms of social interaction between learners. In this procedure, two learners are required to perform the same task. When one performs the task successfully, the other is reinforced for the appropriate response. This technique has resulted in such behaviors as eye contact, verbalization, and pointing and touching between pairs of learners (Williams et al., 1975).

How to Decrease Undesirable Behaviors: Examples:

Reducing Hyperactive Behaviors

The most effective way to reduce hyperactive behaviors is to reinforce incompatible behaviors.

Procedure: In the first two sessions, teach the child to respond to the command, "sit down." Say "sit down." If the child does not respond appropriately, take his hand and walk him to the chair. Say "sit down" again. If he does not respond appropriately, guide him firmly but gently into the chair. After each step, reinforce with edible and social reinforcers. After the third day, no physical guidance should be needed. The child should then be encouraged to remain seated while receiving audio, visual, or tactile stimulation, and can be reinforced for remaining seated for progressively longer intervals, for example, from 20 seconds to 10 minutes, and finally for 30 minute intervals.

The above program was carried out with a severely retarded (IQ=28) 6 year-old girl. After the tenth day she was reinforced for every third appropriate response. She was then on both fixed-interval and fixed-ratio schedules of reinforcement. On days 13-20 she was sitting down immediately on command and remained seated for the entire 30

minute training period. She was always given a toy ring or geometric form box to play with. The authors concluded that reinforcement of incompatible behaviors was far more effective in reducing undesirable behaviors than punishment or timeout, which do not encourage any adaptive alternatives (Whitman et al., 1971).

Reducing Consumption of Inedible Objects (Pica)

Procedure: Place child in a room with a table. On the table are finger-size edibles and the type of inedibles (Pica) which are not harmful. Reward the child with more food for abstention from pica, when the child eats pica, say firmly, "Don't eat that (name of object)" and remove all edibles and pica from table for a short period (Timeout). (Ausman et al., 1974).

Reducing Body-Rocking Behaviors

Procedure: Give the child another activity in which to engage, such as lever-pulling for visual stimulation.

Baumeister et al., (1971) found that when a subject was given another activity in which he could actively participate, body-rocking behavior ceased. This supported the notion that body rocking can at times be a response to frustration.

Increasing Crawling and Increasing Walking Behaviors

Procedure: Define crawling as uninterrupted movement across the

floor for at least 10 seconds, with knees on floor. Walking is defined as uninterrupted movement across the floor for at least 10 seconds, with feet flat on the floor and body erect.

1) Teacher sits on one side, or corner, of the room and calls the child by name. When the child arrives within one foot of the teacher, whether by walking or crawling, teacher gives both edible and verbal reinforcement.

2) After child has learned to come when called, if he crawls for 3 seconds on responding to the teacher's call, another teacher should restrain the child by holding him by the waist from behind for 5 seconds, allowing him to make crawling movements but not to move forward. After 5 seconds, the 2nd teacher should raise the child to a standing position, allowing him to walk in the direction he was crawling toward the 1st adult with the reinforcer.

It was found, when using the above procedure with severely retarded children, that there were occasional follow-ups needed to maintain walking as the dominant mode (O'Brien et al., 1972).

Teaching New Behaviors

How to use Modeling Procedures. Most children learn to imitate

model behaviors of adults or other children while still in infancy. Severely retarded children must usually be taught to imitate a model. Imitative behavior is maintained and increased by reinforcement. Modeling is extremely important because many new behaviors can be taught by providing a model for the learner to imitate.

How to use Modeling Procedures: Examples

Teaching appropriate verbal repertoire.

1. Using Objects

- A. Bring existing verbal repertoire under imitative control by reinforcing learner's imitations of teacher's utterances. Begin with simple sounds (e.g., "mm," "ba") already in the learner's repertoire.
- B. Have the learner imitate appropriate words in specific stimulus situations. (e.g., "candy," "pencil," "go" in real life situations). (as described in Wheeler et al., etc., 1973).

2. Using Flash Cards

Materials: Cards with the object pictured on one side, the name of the object pictured on the other side.

Procedure: Teacher will model appropriate behavior (i.e., reading word and looking at the card). Learner is reinforced for each imitative response. After correct response

is learned, present learner with card, word side up, and reinforce for each correct response. (adapted from Rydberg et al., 1971 study with a subject of IQ=35). Teaching discrimination of shape, size, color, quantity and position. Two teachers are required. One presents stimuli, the other acts as the model. The model points on cue and attends to the stimuli. The learner is reinforced for imitating the model. After discriminations are acquired the learner is reinforced for each correct response (Adapted from Jacobson et al., 1973).

Shaping, Chaining and Fading Procedures

Sometimes it is necessary to break down the task into smaller, simpler steps, and then to guide the learner through each step.

Shaping a new behavior begins with reinforcing an approximation of the desired behavior, and then withholding reinforcement until it comes closer and closer to the desired behavior.

Chaining takes simple behaviors that are already in the repertoire of the learner (or have been taught as single units) and putting them together to form a complete task.

Fading entails a gradual removal of guides and prompts. Another type of fading entails the gradual elimination of reinforcers.

The following examples make use of shaping, chaining, and fading procedures :

Playing a Pegboard Game

Place the pegboard and a cup of pegs in front of the learner. Tell him: "Put the peg in the board." As an initial approximation to this request, the learner can be reinforced for placing the peg in a small cup on the pegboard. The teacher can initially move the learner's hand through the task, then fade out the physical prompt. The cup opening can be made smaller and smaller.

The above procedure was carried out successfully with a severely retarded learner. It was found that the pegboard task interfered with stereotyped behaviors (repetitive movements of any part of the body).

A Social Cooperation Task

One study found that a shaping procedure, plus pairing a high and low interacting child obtained the best results (Morrie et al., 1974). The shaping procedure begins with the teacher covering the child's hands and placing the child's hands over the ball. The teacher's grasp is strong enough to help the child to release the ball. The teacher gradually requires the child to release and push the ball a longer and longer distance in order to obtain reinforcement, until the ball rolls the full distance to reach another person. Both the learner and the model (the other person in the ball-rolling dyad) receive edible and social reinforcement.

Teaching Self-Feeding Skills

The most common technique in teaching self-feeding skills is to guide the learner's hand through the eating behaviors and fade out guidance as the child gains competence.

O'Brien et al., 1972 defined a correct feeding response as "the child's taking food from the bowl with the spoon held right side up by the handle and bringing the food to her mouth without spilling."

The procedure used by O'Brien et al., is as follows: A spoon and a bowl were placed on a table, with the spoon to the right of the bowl. The bowl contained food which had the consistency of a lumpy paste. Five brief meals were given daily, five days a week. Each meal was ended after the bowl was emptied, or after 4 minutes, whichever happened first. The teacher sat to the right of and slightly behind the child. The teacher made sure that the child was seated in an appropriate eating position. The teacher shaped the appropriate behaviors as follows:

"(1) The handle of the spoon was placed in the child's right hand, which was then held by the teacher's hand. (2) Guiding the hand, the spoon was dipped into the food, and with food on the spoon, it was lifted to about 1 inch above the bowl. (3) The spoon was lifted to within 2 inches of the child's mouth. (4) The teacher placed her left hand on the child's chin and gently opened the child's mouth. (5) The spoon was gently guided into the child's mouth. (6) The child's hand was guided upward and outward resulting in the food being removed from the spoon by the child's upper teeth or lip."

"When training by manual guidance was first introduced, the teacher guided the child through all six of the steps. Whenever the sequence was completed correctly on three successive assisted trials, the child's hand was guided through one less step on the next assisted trial.

Whenever an assisted trial was not completed correctly, it was interrupted and another guided trial was begun, which included one additional step....To obtain a continuous measure of the level of independent eating, an unguided trial followed every trial completed correctly" (O'Brien et al., 1972).

Most self-feeding teaching techniques include a timeout from reinforcement, where the food tray is removed for about a minute. Song et al., (1974) found that it was necessary to restrain the child's non-spoon hand, as he would frequently grab food with it. A piece of cloth was used.

Another procedure used to teach self-feeding skills utilizes a seven-step sequence:

1. Aide, holding child's hand with spoon in child's hand, makes entire feeding cycle. From plate (scooping food) to mouth and back to plate.
2. Aide makes entire feeding cycle, but partially releases child's hand (still holding spoon with food on it) 2-3 inches below child's mouth. Child lifts spoon these last few inches himself.
3. Aide releases child's hand approximately six inches from child's mouth. Child lifts spoon about six inches.
4. Aide scoops food, releases child's hand at plate level. Child lifts spoon from plate to mouth.

5. Aide brings child's hand to plate, releasing hand. Child scoops food, and lifts spoon to mouth.

6. Aide releases hand after child has emptied spoon. Child brings spoon down to plate, scoops food, and lifts to mouth.

7. Child executes entire self-feeding cycle by himself.

On the 1st day of the training program, the aide stood behind the child, holding spoon tightly in his hand and feeding him as he sat facing the plate of food on the table (step 1). This procedure was followed for all three meals of this 1st day. On the first meal of the 2nd day, after repeating the above procedure several times, the aide introduced the first variation (step 2) in the fading procedure. Now the aide let go of the child's hand about 2-3 inches from the child's mouth. The child was now required to move the spoon these few inches to get his reinforcement.

Upon the successful completion of step 2 for at least one entire meal, the aide advanced to step 3, terminating her grip and movement at a distance still further from the child's mouth and closer to the plate of food, thus requiring the child to lift the spoon a greater distance. With each step, the child succeeded in performing more of the self-feeding cycle by himself and required less help from the aide. The aim was to ensure success by making the steps small and not trying to advance the child too quickly. When a child regressed to a lower step, there was an increase in the aide's prompting.

As the child's behavior was shaped into its final form, the aide's help was faded out. The aides were provided with charts for each child which pictured the seven steps. It was thus easy for the aides to check off at the end of each meal the step a particular child was working on. This enabled the aide in the next shift to follow the child's progress and to know where to begin with the child. (Berkowitz et al., 1971)

Behavior Shaping in the Very Retarded

The procedures that follow insured that food intake (and hence, reinforcement) was allowed only if the food reached S's mouth by an appropriate response. The program was in effect for all meals of each day.

S was shaped to use a spoon in the following way: The trainer first placed a large-handled spoon in S's hand and closed his fingers around it. The spoon was then guided into the food on his plate and from there, after being loaded, to his mouth. As S became more proficient in self-feeding, the trainer gradually reduced his assistance, requiring S to perform more and more of the total feeding sequence himself. The amount of physical contact and support given S was also progressively reduced. This involved the trainer fading his guidance and support from S's hand, to his wrist, to his forearm, and finally to his elbow.

Finger foods, such as bread slices and celery stalks, were introduced to S at the beginning of training. These foods and his regular meal were always placed in the same position on S's tray relative to each other, so that S could learn to discriminate finger foods from nonfinger foods on the basis of their location. This discrimination, as with the self-feeding response per se, was taught by allowing only appropriate responses to be reinforced and by blocking inappropriate responses.

Tantrums, which often occurred during training, were punished by a brief timeout period in which S's meal was removed. The meal was returned contingent upon cessation of the tantrum. Prolonged tantrums (i.e., those which did not stop after timeout was imposed) resulted in S's removal from the dining room and the consequent loss of the remaining portion of that meal.

After 2 months (approximately 60 meals) of training, all physical assistance was eliminated. The trainer's role then became one of supervision, reinforcing appropriate responses with occasional praise and controlling inappropriate responses by saying "No," blocking the inappropriate response if the word "No" was not effective, and telling S to "Use your spoon" (if this command was an appropriate correction for the type of error made). (Miller et al., 1971)

It may also be useful to break up each meal into three "mini-meals," so that learners will have nine sessions per day (Azrin & Armstrong, 1973).

Reinforcement therapy has proved very effective in teaching daily living skills to the severely mentally retarded; however, it is important to remember that each program must be designed to accommodate each child's individual needs.

SELECTION OF APPROPRIATE ACTIVITIES AND MATERIALS

The principles of normalization and independent functioning of the resident are the foundations for teaching therapy aides how to select appropriate materials and activities to meet the needs of the severely and profoundly mentally retarded residents. By utilizing the Basic Skills and Activities Compendium,^{*} guidelines for selection, demonstrations and concise explanations, the therapy aide develops the ability to determine what activities and materials are appropriate for a particular resident.

The first step in developing this skill is to be aware of the objective or goal one is trying to achieve with the resident before selecting the activity or material. The Basic Skills and Activities Compendium serves as an excellent demonstration and implementation model in that the objective and materials needed for an activity are listed on each activity card. During each training session, the therapy aide has the opportunity to conduct activity itself and the materials chosen fulfilled the objective. The trainer is on hand to give explicit explanations concerning how the materials and activity support the objective; and how the activity and/or material might be adopted to a more appropriate learning experience for the resident when either is considered inappropriate.

During training sessions, the therapy aide is given further guidelines:

1. The learner should be actively engaged in the learning experience.
2. The learner should have acquired all pre-requisite skills needed to use the activity or material.
3. The material should be manipulative.
4. The activity or material should be age appropriate.
5. The material should be safe and reuseable.
6. The teacher should examine what aspect of the stimuli the learner is attending to since the learner may be focusing on irrelevant rather than the relevant aspects of the activity or material.
7. The activity should aid the learner in acquiring a new skill rather than just keeping him or her busy.*²

To reinforce these guidelines, the trainer solicits information from the therapy aide about the resident following each training session. This discussion period not only develops prescriptive thinking but gives the therapy aide feedback as to the appropriateness of the activity or material. By answering questions which revolve around the resident's performance, attention span, skills, and learning environment, the therapy aide can gain insights into what activities, materials and learning techniques create an optimum learning situation for the resident. The trainer and the therapy aide then discuss possible solutions to any problems they encounter. Many of the questions asked by the trainer can be found in the evaluation section of each activity card from the Basic Skills and Activities Compendium. This

gives the therapy aide the opportunity to evaluate the effectiveness of each activity whenever he/she works with a resident.

As the therapy aide develops selection and adaption skills, they are encouraged to select, create or adopt activities and materials themselves which are as closely related to a life skill and as age appropriate as possible. The therapy aides may choose activities for a group as well as an individual resident. They are also encouraged to seek ideas and information about the resident from others concerned with the educational development of the learner i.e. speech therapists, psychologists, teachers, recreation therapists, etc. The professional staff can give the therapy aide added input as to the resident's familiarity with materials, motivations, strengths and weaknesses. This type of information can be of great value to a therapy aide as he/she develops activities and materials aimed at meeting the needs of the severely and profoundly retarded residents.

*¹ Although the Basic Skills & Activities Compendium is the accompanying piece to this manual, other activities can be as effective if utilized in a similar fashion.

*² For further guidelines see: Roberts, B., "Instructional Materials for Severely/Profoundly Retarded Learners," Mental Retardation. 1976, 14 (3), 39-42.

EVALUATION

Evaluation criteria have been developed for the three phases of training. Changes in the behavior of therapy aides and residents are the primary indicators with regard to the feasibility and viability of the training approach.

Therapy aides complete a post-self evaluation of their skills at the conclusion of the training program while the trainer completes a performance review for each trainee. The performance review is shared with the trainee and placed in his/her personnel file as evidence of participation in the program, skills acquired, and recommendations for further skill development.

BASIC EVALUATION CRITERIA FOR PHASES I THROUGH III

I. PHASE I - ACTIVITY TRAINING

A. Resident Response

1. Has there been any noticeable change in the behavior of the residents
2. Do the residents respond to the activities
3. How do the residents respond to the activities (spontaneously, through imitation, physical positioning, reinforcement)

B. Evaluating Therapy Aides

1. Ability to model activities
2. Ability to adapt activities to suit the individual needs of residents
3. Attendance at meetings, motivation, attitudes
4. Rapport with residents

C. Feedback Meeting

1. Fostering communication between the professional staff and the unit staff
2. Solving problems on the unit as a team
3. Feedback on specific aspects of the training program

II. PHASE II - MONITORING THE RESIDENT'S PROGRESS

A. Evaluating the Therapy Aide

1. Ability to identify possible problems and areas in which resident could use improvement

BASIC EVALUATION CRITERIA FOR PHASES I THROUGH III

II. MONITORING THE RESIDENT'S PROGRESS (CONTINUED)

2. Knowledge of specific activities to remediate problems
3. Ability to monitor resident's progress

III. PHASE III - PRESCRIPTIVE PROGRAMMING

A. Evaluating the Therapy Aide

1. Ability to follow a prescriptive program
2. Familiarity with resident's education and training needs
3. Knowledge of several activities in each skill area
4. Familiarity with materials and resources
5. Understanding management techniques
6. Familiarity with terms related to learning (e.g., visual discrimination, eye-hand coordination, auditory memory)

B. Feedback Meeting

IN-SERVICE TRAINING EVALUATION FORM
(Post-Training Evaluation)

Listed below are the major areas of concentration of the Teaching Resource Center training in methods and techniques for working effectively with the severely-to-profoundly retarded. Will you please assist us in our evaluation of the effectiveness of the training by indicating your own assessment as to your present level of competency in each area.

*Knowledge of specific activities to stimulate the five senses (hear, smell, taste, feel, sight) of the resident.

_____unclear _____familiar _____understand _____can demonstrate

*Knowledge of specific activities to improve the motor ability of the residents.

_____unclear _____familiar _____understand _____can demonstrate

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*Knowledge of specific activities to stimulate and improve the language ability of the residents.

_____unclear _____familiar _____understand _____can demonstrate

*Knowledge of how and when to use reinforcers.

_____unclear _____familiar _____understand _____can demonstrate

*Knowledge of what to use as a reinforcer.

_____unclear _____familiar _____understand _____can demonstrate

*Knowledge of management techniques for working with a group of residents.

_____unclear _____familiar _____understand _____can demonstrate

*Knowledge of appropriate materials for working with residents.

_____unclear _____familiar _____understand _____can demonstrate

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NAME: _____

DATE: _____

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PERFORMANCE REVIEW

NAME: _____ CENTER: _____
UNIT: _____ DATE: _____

RE: Activity Training

The New York Regional Resource Center (RRC #10) conducted at three month training program for therapy aides at Keener Unit of the Manhattan Developmental Center. The thrust of training was activity implementation by the therapy aides with severely-to-profoundly retarded residents living at Keener Unit.

Activity training was conducted in three phases - introduction, implementation with support, and independent implementation. Training was centered around three skill areas - sensory stimulation, motor development, and language development. Debbie has demonstrated competence in the implementation of the following activities:

SENSORY STIMULATION:

- S9 Recognizing whether sounds are the "same" or "different"
- S10 Localizing sounds when blindfolded
- S11 Experiencing a variety of tastes
- S13 Recognizing the taste of specific foods
- S21 Recognizing the feeling of smooth and rough
- S22 Exposing the child to a variety of smooth and rough textures
- S26 Discriminating wet and dry
- S28 Exposing the resident to the feelings of "warm" and "cold"
- S33 Experiencing a variety of odors

LANGUAGE:

- L10 Cuddling a toy
- L17 Identifying objects
- L24 Recognizing own name
- L25 Obeying commands
- L26 Obeying commands
- L27 Performing actions upon body parts

MOTOR DEVELOPMENT:

- M9 Clapping to music
- M10 Throwing an object into a container
- M18 Stacking blocks to form a "tower" and "train"
- M22 Opening a container to find out what is in it
- M28 Stretching elastic loops around a button
- M31 Playing a musical instrument
- M32 Rolling a ball
- M43 Kicking a ball
- M44 Locating and touching part of body upon request

SUMMARY:

Debbie was very cooperative throughout the training program. She was on time for all her sessions and really seems to enjoy working with the residents. She demonstrates and models activities well and her ability to communicate with the residents is conveyed through patience and understanding.

Debbie seems to have trouble adapting activities to meet the needs of the residents. She also showed surprise when witnessing the positive results achieved with the aid of behavior modification techniques. This would indicate that more training and exposure in areas such as behavior modification would be very beneficial to Debbie in helping her to realize her potential to the fullest.

PERFORMANCE REVIEW

NAME: _____ CENTER: _____

UNIT: _____ DATE: _____

RE: Activity Training

The New York Regional Resource Center (RRC #10) conducted a three month training program for therapy aides at Keener Unit of the Manhattan Developmental Center. The thrust of training was activity implementation by the therapy aides with severely-to-profoundly retarded residents living at Keener Unit.

Activity training was conducted in three phases - introduction, implementation with support, and independent implementation. Training was centered around three skill areas - sensory stimulation, motor development, and language development. Alice has demonstrated competence in the implementation of the following activities:

SENSORY STIMULATION

- S1 Exploring reflection in the mirror
- S3 Visually tracking an object/or following an object with eyes
- S6 Shaking containers containing small objects
- S9 Recognizing whether sounds are the "same" or "different"
- S11 Experiencing a variety of tastes
- S17 Experiencing water play
- S20 Exploring various textures
- S22 Exposing the child to a variety of smooth and rough textures
- S24 Exploring playdough
- S26 Discriminating wet and dry
- S28 Exposing the resident to the feelings of "warm" and "cold"
- S29 Discriminating warm and cold

LANGUAGE:

- L10 Cuddling a toy
- L12 Matching colored cubes
- L16 Identifying parts of the body
- L23 Look at me
- L24 Recognizing own name
- L26 Obeying commands

MOTOR DEVELOPMENT:

- M9 Clapping to music
- M10 Throwing an object into a container
- M15 Marking on paper
- M20 Putting pegs into a board
- M22 Opening a container to find out what is in it
- M27 Working puzzle
- M31 Playing a musical instrument
- M32 Rolling a ball
- M43 Kicking a ball

SUMMARY:

Alice was an essential element to the functioning of the training program. As acting ward charge, she made sure that the therapy aides were free at their scheduled times. Alice attended every training session possible sometimes participating in a session when not scheduled. She has the ability to work with one resident as well as a group and is very concerned with the welfare of all the residents on her unit. She models and demonstrates activities well showing patience and understanding. She has a good understanding of learning techniques and principles and would often point out particular behaviors in a resident.

Because of her numerous custodial responsibilities and staff shortages, little time was spent engaged in meaningful activities with the residents outside of the training sessions. This is unfortunate because a talent such as Alice's could be very effective in promoting growth and learning in a resident.

SUMMARY

There were several reactions to Phase I of training that should be noted. At the initiation of the training the therapy aides usually chose the higher functioning residents who were most likely to succeed. However, after several weeks of training the aides began to choose the lower functioning residents. They seemed delighted with any progress the residents made. It was also found that the residents seemed to respond as well to social reinforcement (such as touching, hugging, etc.) as to edible reinforcement. Finally, the therapy aides were most helpful in suggesting new activities or variations on activities introduced.

In Phase II, it was noted that because the therapy aides were evaluated by the administration on the visual effects of cleanliness and other custodial duties, they usually implemented the designated activities with the chosen residents during the scheduled sessions rather than on their own. However, they seemed to enjoy this phase because it required some judgement and responsibility. It was found that the progress charts should be monitored continuously so that their importance would be emphasized.

A few additional needs were discovered as a result of Phase II of training. More follow-up seems necessary for the prescriptions since the residents will accomplish many of the skills. It was suggested that a professional should be responsible for adjustments in the prescriptions as they were needed. Also, the therapy aides

requested that a time be set aside each day for them to work with the residents.

By the end of Phase III of training, the input from therapy aides at the feedback meeting had increased considerably from what had been observed following Phase I of training. Therapy aides appeared more confident, hence questions and comments were raised without hesitation exhibiting a confidence that was not present at the onset of training.

Follow-Up Study

As has been discussed, the training program was conducted with the expectation of achieving six major goals. Primary to any follow-up evaluation regarding impact and effectiveness of program efforts, however, is the degree of demonstrable changes in the behavior of the trainees. An observational method was established to enable analysis of the behavioral and situational components of aide/resident interpersonal interactions in a residential setting for the 24 hour retarded child. The follow-up study was conducted one month following the termination of the training program. Two basic questions were addressed by the follow-up evaluation:

- 1) Did the training experience provide the trainees with skills and activities sufficient to have a successful carry-over in the absence of a structured training program?
- 2) Were there observable changes in the quantity and quality of resident/aide interaction?

Observational Procedure

An observational procedure noting the kind and frequency of interactions between residents and therapy aides was used. Therapy aides were observed in ten minute intervals between the hours of 9:30 a.m. and 4:00 p.m. As previously stated, the demonstration site is divided into four units. While training was conducted on one unit, the follow-up study was conducted on each of the four units to ascertain if there were any significant differences in aide/resident interactions on units where no training had occurred as compared to the training unit. Interactions were classified as custodial, non-custodial, and other. An interaction event was described as beginning with the directed attention of the therapy aide towards the resident or the directed attention of the resident towards the therapy aide and ending with a state of non-attention or redirection of attention to another resident or staff member. Observers recorded the time that the interaction began, a brief description of the interaction, and the time of cessation. The difference between the two was noted as the duration of the event.

Custodial Interaction - an interaction between a therapy aide and a resident for the primary purpose of taking care of the resident thereby fostering dependence. Examples include: attending to the toilet needs of the resident, dressing the resident, wiping the resident's nose, taking the resident to the clinic, etc.

Non-Custodial Interaction - an interaction between a therapy aide and a resident for the primary purpose of improving skills and contributing to developmental growth thereby fostering independent functioning. Examples include: activity training with residents, stroking residents, engaging in personal hygiene and daily living activities, recreation and play activities, etc.

Other therapy aide activities were coded and described as follows:

(OT) Off Task

- socializing with other staff members
- hanging around alone
- reading newspapers
- walking in and out of office
- talking on the telephone

(CW) Custodial Care of Ward

- making beds
- changing sheets
- laundry tasks
- mopping floors

(CD) Clerical Duties

- writing in log book
- reading log book
- developing materials for client use
- attending meetings
- job related telephone conversations

(M) Miscellaneous

- break
- lunch
- bathroom (trips to)
- locker (trips to)
- soda machine (trips to)

(OU) Off Unit

To avoid the emission of unnatural behaviors on the part of the therapy aides, aides were told that the observers were observing the residents. To remain consistent with what we said we were doing, each data collection form used during observations bore the name of a resident opposite the person observed and a four letter code opposite the code space. Each therapy aide was assigned a color which was in turn coded to include the initial three letters of the color word followed by the initial letter of the aide's first name. For example, a therapy aide named Susan may have been assigned the color brown. Her identifying code would then be Bro-S.

The data consisted of recorded observations of staff members of four units. The observations consisted of descriptions of the types of behaviors exhibited by the staff members, and also the duration of the behaviors. The behaviors could be classified into one of three major categories - custodial interactions, non-custodial interactions, and non-interactions. Each staff member received three scores which

represented how much time the staff member spent engaged in each of the three types of behaviors.

Table 1: consists of a summary of how each of the four units' time is allotted. The total scores of each of the staff members of a particular unit were combined to yield a unit score. The total interaction scores were derived by combining the custodial and non-custodial interaction times. An examination of Table 1 indicates that the four units do not differ significantly in terms of the percentage of time spent interacting with residents relative to the time spent not interacting.

Table 2: consists of a breakdown of total interaction time by unit, yielding the percent of interaction time which is custodial and the percent which is non-custodial. Although Table 1 indicated that there were no significant differences between units in the quantity of interaction, Table 2 points to a significant difference in the quality of interaction, namely unit #852 spends significantly more of its interaction time in non-custodial activities than do the other units. A chi-square analysis on the Table 2 data yielded $\chi^2 = 105.66$, 3 df. p. 7.001. This is interpreted as meaning that we can say that the results obtained, i.e. the differences between units are attributable to some factors, other than chance, with a 99.9% level of confidence.

SAMPLE OBSERVATION SCHEDULE

MONDAY

Shirley	1:15 - 1:25	2:10 - 2:20	3:00 - 3:10
Ronnie	1:25 - 1:35	2:20 - 2:30	3:10 - 3:20
Teddie	1:35 - 1:45	2:30 - 2:40	3:20 - 3:30
Debbie	1:45 - 1:55	2:40 - 2:50	3:30 - 3:40

TUESDAY

Bob	9:30 - 9:40	10:30 - 10:40	11:15 - 11:25	1:00 - 1:10	2:00 - 2:10	2:55 - 3:05
Shirley	9:40 - 9:50	10:40 - 10:50	11:25 - 11:35	1:10 - 1:20	2:10 - 2:20	3:05 - 3:15
Ronnie	9:50 - 10:00	10:50 - 11:00	11:35 - 11:45	1:20 - 1:30	2:20 - 2:30	3:15 - 3:25
Debbie	10:00 - 10:10	11:00 - 11:10	11:45 - 11:55	1:35 - 1:40	2:30 - 2:40	3:25 - 3:35

WEDNESDAY

Debbie	9:30 - 9:40	10:30 - 10:40	11:40 - 11:50	1:00 - 1:10	2:15 - 2:25	3:00 - 3:10
Bob	9:40 - 9:50	10:40 - 10:50	11:50 - 12:00	1:10 - 1:20	2:25 - 2:35	3:10 - 3:20
Shirley			12:00 - 12:10	1:20 - 1:30	2:35 - 2:45	3:20 - 3:30

COLOR CODING

Shirley: Blu - S

Ronnie : Bla - R

Teddie: Yel - T

Debbie: Red - D

Bob: Gre - B

Teaching Resource Center/New York Regional Resource Center (RRC #10)
The City University of New York

DATA COLLECTION FORM

Date: August 19
Location: 853

Person Observed: Ronnie
Observer: Seagraves

Code: Bla-R

Time Start/Finish	Custodial Interactions (brief description of activity)		Non-Custodial Interactions (brief description of activity)		
11:45 - 11:55	-Observing residents in dayroom	5:45	-Talking and playing with resident	4:15	
1:30 - 1:40	-Getting residents ready to go outside for party	3:00			
2:30 - 2:40	-Watching residents at party	7:00	-Playing volleyball with residents, T.A.'s, and staff	10:00	
		15:45		14:15	

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Teaching Resource Center/New York Regional Resource Center (RRC #10)
The City University of New York

DATA COLLECTION FORM

Date: August 18

Person Observed: Debbie

Code: Red-D

Location: 855

Observer: Seagraves

Time Start/Finish	Custodial Interactions (brief description of activity)	Time	Non-Custodial Interactions (brief description of activity)	Time	Code
11:00 - 11:20					O.T. Telephone 10:00
12:15 - 12:25	-Returning residents from lunch -Taking resident to bathroom and returning -Instructing residents to sit down -Bringing resident to dayroom -Instructing resident to put shoe on -Adjusting a resident's pants and seating him	10:00			
1:00 - 1:10	-Observing residents on porch	9:55	-Talking to residents while playing records	:05	
1:40 - 1:50	-Observing residents on porch	10:00			
		29:55		:05	10:00

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Teaching Resource Center/New York Regional Resource Center (RRC #10)
The City University of New York

DATA COLLECTION FORM

Date: August 11 Person Observed: Teddie Code: Yel-T
Location: Unit 852 Observer: Thompson

Time	Custodial Interactions (brief description of activity)	Time	Non-Custodial Interactions (brief description of activity)	Time	Code
1:45-1:55			-Observing resident activity -Supervised activity (touched resident and talked to resident) -Observing activity	1:00 5:00 3:00	OT-1:00
2:30-2:40			-Observing activity -Handing out instruments -Seated resident (Gave resident materials and implemented activity)	1:00 1:00 2:00 3:00	OT-1:00 CW-2:00
3:10-3:20					CD-10:00
		00:00		16:00	14:00

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BREAKDOWN OF INTERACTION TIME - TABLE 1

<u>Unit</u>	<u>Total # Obs Days</u>	<u>Custodial Interaction</u>	<u>Non-Custodial Interaction</u>	<u>Total Interaction</u>	<u>Other</u>	<u>Total Time Observed</u>
#852	19	222:45 32%	94:40 13%	317:25 45%	394:00 55%	711:25
#853	17	284:53 48%	6:57 01%	291:50 49%	308:10 51%	600:00
#855	13	218:00 43%	15:40 03%	233:40 46%	276:20 54%	510:00
#856	16	230:00 39%	51:45 09%	281:45 48%	308:00 52%	589:45

Time scores are in minutes and seconds

BREAKDOWN OF INTERACTION TIME - TABLE 2

<u>Unit</u>	<u>Custodial Interaction</u>	<u>Non-Custodial Interaction</u>	<u>Total Interaction</u>
#852	233 (70%)	95 (30%)	318
#853	285 (98%)	7 (02%)	292
#855	218 (93%)	16 (07%)	234
#856	230 (82%)	52 (18%)	282

$\chi^2 = 105.66$ (3 dfs)

(Chi-Square)

Time scores are in minutes

Analysis of Before and After Self Evaluations

Subjects received scores which consisted of the number of areas in which their knowledge was sufficient to demonstrate and use the activities and techniques. The following table is a summary of each individual's before and after scores:

<u>Subjects</u>	<u>Before</u>	<u>After</u>	<u>Differ</u>
1	0	4	+4
2	0	4	+4
3	4	6	+2
4	0	7	+7
5	0	2	+2
6	4	6	+2

(Table 1)

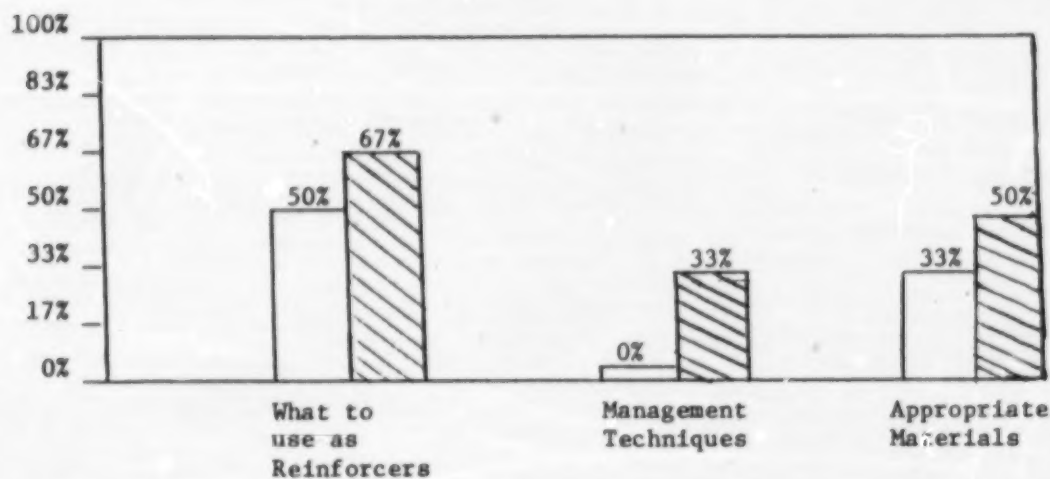
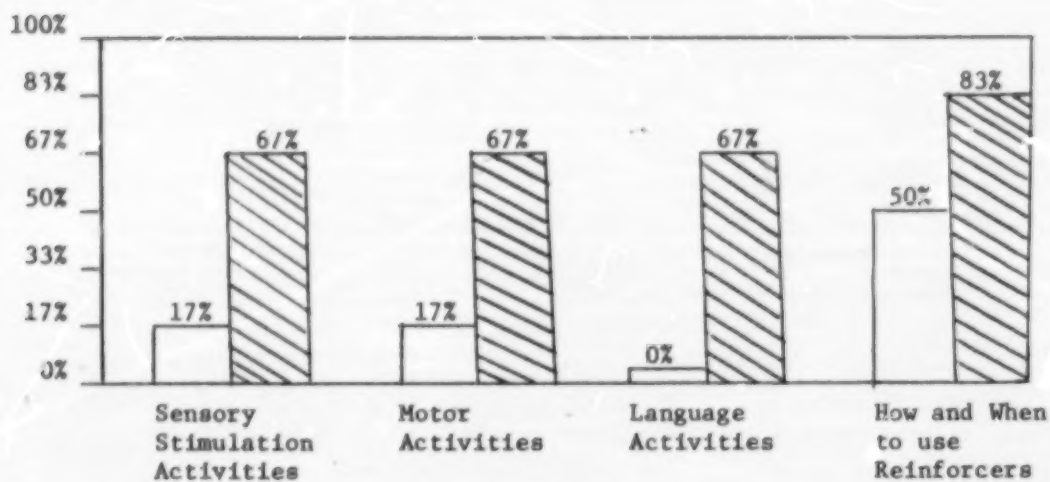
A sign test was performed on the data (Siegel, 1956) indicating a significant gain in the positive direction ($p .05$).

An examination of the data broken down according to specific areas, shows that the greatest gains were in the areas of sensory stimulation, motor and language activities. However, there was a positive increase in the percentage of staff who could demonstrate the activities and techniques in each of these eight areas.

Reference:

Siegel, S., Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, Co., 1956.

% of Staff with Knowledge Sufficient to
Demonstrate the Activities and Techniques



Before
 After

TABLE 2

With a heightened awareness of the resident's potential for learning, a repertoire of activities and skill in the implementation of appropriate activities, there is a considerable improvement in the quality of therapy aide/resident interaction in the absence of a structured training session.

The observation data collected during the follow-up study as described in the manual should ideally be collected prior to training and again following training.